

REMARKS

Applicant respectfully requests reconsideration of this application in view of the foregoing amendments and following remarks.

Objection**Drawings**

In paragraphs two (2) of the Office Action, the Examiner indicated that Figure 6 should be designated by a legend such as -- Prior Art --. In paragraph three (3) of the Office Action, the Examiner indicated that the drawings include reference signs not mentioned in the description.

Proposed amended Figures 5 and 6 are submitted herewith. In Fig. 5, numerals "120" and "130" have been amended to read --12-- and --13--, respectively, to reflect the reference numerals used in the relevant portion of the specification as amended (e.g., the paragraph starting from page 11, lines 8-12). In Fig. 6, a legend -- Prior Art -- has been added. Applicant also submits formal drawings of Figs. 5 and 6 should the proposed amendments to these drawings prove acceptable. No new matter has been added by these proposed amendments.

Specification

In paragraph five (5) of the Office Action, the Abstract has been objected to because of a grammatical error. The Examiner indicated that the "and light deflecting element" should be -- and a light deflecting element --.

The Abstract has been amended accordingly to the Examiner's suggestion.

Applicant respectfully requests that this objection be withdrawn.

Status of the Claims

Claims 1-12 are pending in this application. Claims 1-12 have been rejected under 35

U.S.C. §112, second paragraph, as being indefinite. Claims 1-4 and 6-11 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,408,282 to Nagashima et al. (hereinafter “Nagashima”) in view of U.S. Patent No. 5,833,339 to Sarayeddine (hereinafter “Sarayeddine”). Claim 5 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Nagashima in view of U.S. Patent No. 5,442,413 to Tejima et al. (hereinafter “Tejima”). By this amendment, claims 1 and 11 have been amended, and claims 13-15 have been added. No new matter has been added by these amendment.

Rejection under 35 U.S.C. §112

In paragraph 7 of the Office Action, claims 1-12 have been rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter. The Examiner indicated that the phrase “substantially parallel” in claim 1 renders the claim and subsequent dependent claims indefinite.

Applicant respectfully disagrees with the Examiner. According to the MPEP 2173.05 (b), the term “substantially” is definite because one of ordinary skill in the art would understand what was meant by “substantially parallel” in view of the specification.

Reconsideration and withdrawal of the rejections under 35 U.S.C. §112 is respectfully requested.

Rejection under 35 U.S.C. §103

In paragraph nine (9) of the Office Action, claims 1-4 and 6-11 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Nagashima in view of Sarayeddine.

Nagashima discloses a rear projection television set in which a “skirted portion” at a lower portion of a screen of the casing is made as small as possible to decrease the height of the

center of the screen. Nagashima's rear projection television set is characterized in that the projection source is arranged below the reflector mirror, a ray of light emitted along an optical axis of the lens system of the projection source is reflected by the reflector mirror, and a positional relationship among the screen, the projection source and the reflector mirror is determined so that the reflected ray of light is incidental from an upper side to a lower side relative to the screen.

The Examiner indicates that Fig. 7 and relevant portion of the specification of Nagashima (e.g., column 5, lines 38-46) discloses every elements of claim 1. For example, the Examiner equates LENS 30 of Nagashima to both of the first projection optical system and the second projection optical system of claim 1 of the present invention. Further, the Examiner equated REFLECTOR MIRROR 7 of the Nagashima to the light deflecting means of claim 1 of the present invention.

As Applicant understands it, the overall set up of Nagashima's system is different from the present invention. For example, there is only one projection lens 30 is used in Fig. 7, i.e., the upper right lens 30 does not exist. Thus, there is no trapezoid distortion canceling mechanism involved in Nagashima's system. Moreover, Nagashima at least fails to show or suggest the arrangement for forming an intermediate image of the original picture and light deflecting means as specifically recited in claim 1.

Nonetheless, Applicant has amended claim 1 as shown above. In particular, the "light deflecting means" of the projection type display apparatus of claim 1 has a diffracting optical element.

Sarayeddine is cited as disclosing a plurality of reflecting mirrors disposed substantially

parallel with the surface for projection.

Tejima discloses a projecting optical system in which an optical element is positioned between a first and second projection lens systems. It is explained in Tejima that the optical element has a positive power and a prism function to deflect a bundle of rays transmitted through the first projection lens system towards the optical axis of the second projection lens system to thereby couple pupils of the first and second projection lens systems. Tejima further discloses that the optical element is deviated from an intermediate image forming position by a predetermined offset in the optical axis direction thereof.

Applicant believes that neither Nagashima, Sarayeddine nor Tejima shows or suggest, either alone or in combination, the claimed features of claim 1 as amended. Accordingly, claim 1 is not anticipated by or rendered obvious in view of the cited art of record (i.e., Nagashima, Sarayeddine or Tejima) for at least the reasons as discussed above.

Reconsideration and withdrawal of the rejections of claim 1 under 35 U.S.C. §103(a) is respectfully requested.

Applicant has not individually addressed the rejections of the dependent claims because Applicant submits that the foregoing places the independent claims from which they respectively depend in condition for allowance. Applicant however reserves the right to address such rejections of the dependent claims should such be necessary.

Claims 13-15 have been added to recite the claimed invention in an alternative manner. Specifically, claim 13 recites similar features to claim 1, as amended, i.e., a first projection optical system, a second projection optical system and light deflecting means. Claims 14-15 depend from claim 13. Accordingly, claims 13-15 are believed to be allowable for at least

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similar reasons as for claim(s).

Applicant believes that the all claims are hereby in condition for allowance and such action is respectfully requested.

AUTHORIZATION

A petition for a two-month extension of time along with the associated fee is enclosed, extending the date for responding until June 17, 2002. Should an additional extension of time be required to render this paper timely filed, such extension is hereby petitioned and the Commissioner is authorized to charge any other fees necessitated by this Amendment, or credit any overpayment to our Deposit Account No. 13-4500 (Order No. 1232-4651). **A DUPLICATE COPY OF THIS SHEET IS ENCLOSED.**

An early and favorable examination on the merits is respectfully requested.

Respectfully submitted,
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Version with Markings to Show Changes MadeIN THE ABSTRACT

Please replace the Abstract with the following. Attached as an appendix hereto is a marked-up version of the changes made herein. The attached page is captioned "Version with Markings to Show Changes Made."

-- In order to achieve a great improvement in light utilizing efficiency, a projection type display apparatus for obliquely projecting an original image onto a screen includes a first projection optical system for projecting light from an original picture and forming an intermediate image having trapezoid distortion caused therein, a second projection optical system for obliquely projecting the light from the intermediate image onto a surface for projection so as to cause converse trapezoid distortion, and re-imaging it, and a light deflecting element for deflecting the optical axis of the first projection optical system so that the optical axis of the first projection optical system deflected by the light deflecting element is made to substantially coincide with the optical axis of the second projection optical system. --

IN THE SPECIFICATION

Please substitute the paragraph starting from page 11, lines 8-12 with the following.

-- The plan construction of the eccentric Fresnel lens is shown in Fig. 5. As can be seen from this figure, the eccentric Fresnel lens (elements 12 and 13 as shown in Fig. 5) can be formed by cutting out at a position offset from the center of general concentric circular Fresnel. --

IN THE CLAIMS

Please amend claims 1 and 11 as follows.

1. (Amended) A projection type display apparatus comprising:

a first projection optical system for obliquely projecting light from an original picture onto a predetermined surface, said first projection optical system forming [the] an intermediate image of the original picture on or near said predetermined surface;

a second projection optical system for obliquely projecting the light from said predetermined surface onto a surface for projection [and imaging it thereon]; and

light deflecting means disposed between said first projection optical system and said second projection optical system for deflecting the light emerging from said first projection optical system;

wherein [the] an optical axis of said first projection optical system is deflected by said light deflecting means to substantially coincide with the optical axis of said second projection optical system,

and wherein said light deflecting means has a diffracting optical element.

11. (Amended) A projection type display apparatus according to claim 1, further comprising a plurality of [vertically or substantially vertically disposed] reflecting mirrors which are so disposed to be parallel with the surface for projection.